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ABSTRACT

A study examined structured on-the-job training (SOJT) within the organizational context of 8 Dutch firms exploring more than 500 individuals each. Between 7 and 19 individuals (trainees, trainers, supervisors, managers, and/or human resource development officers) were interviewed at each firm. The effectiveness of SOJT was found to be greatly influenced by the type of organization providing it and by the extent to which the type of SOJT provided was suited to the type of job for which training was required. Jobs that allow more autonomy and that are more complex, i.e., jobs that are not part of a standardized work process, were found to require more than just a didactic training function and on-site instruction. No uniform indicator of effectiveness was identified; instead, it was concluded that the effectiveness of SOJT must be judged by the specific goals and intentions of each individual organization's management and employees. The following were recommended as measures for evaluating the effectiveness of SOJT: time required for new personnel to reach full productivity; number and seriousness of mistakes, faults, and/or deficiencies during production processes; and quality and quantity of products or services rendered. (Contains 19 references.) (MN)

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ORGANIZATIONAL CONTEXT OF STRUCTURED ON-THE-JOB TRAINING

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Introduction

Structured on-the-job training is a form of job-oriented training which is located in the workplace. The trainee performs practical assignments according to a training plan and is coached by an experienced colleague or supervisor. Mastery of the job tasks is formally assessed. This form of training is increasingly gaining the attention of the business world as well as researchers. At Utrecht University, the Netherlands, a research project was started in 1990 with the aim of developing a research-based domain-specific theory of on-the-job training. Data were gathered from eight Dutch firms, following a review of the literature, two exploratory case studies and a telephone survey of on-the-job training programs in Dutch industry and commerce. This research report deals with those eight case-studies and is limited to meso-level data, concerning program development and organizational incorporation. Micro-level data concerning didactic matters have been separately reported in DeJong & Versloot (1994).

Theoretical background

Inspired by Mintzberg's contingency theory on organizations our main research question in this report is: what is the influence of type of organizational context on form and effectiveness of on-the-job training?

By organizational context we mean type of organization, type of job and the way in which the training function is organized in the company. In the Netherlands a few authors are theoretically interested in the relationship between organizational context and type of training activities (Krogt & Plomp, 1989; Thijssen, 1991; Schramade, 1991; Versloot, 1991). Contingency theory can be applied to the domain of corporate training and supposed contingencies are to be made explicit and testable in empirical research. Here we present a scheme of such supposed contingencies (see figure 1) between organizational context and on-the-job training. On-the-job training is by definition closely linked to the production process itself and the way the production process is organized. According to Mintzberg different types of organizations use a different dominant coordination mechanism. We suppose that in a certain type of organization an effective type of on-the-job training has to make use of the typical dominant coordination mechanism.

Because of the very different connotations it is necessary to choose a clear definition of 'on-the-job training'. In this paper the term on-the-job training is used as an equivalent of on-site training (a term introduced by Wexley & Latham 1981)

and denotes both more and less structured training in the actual work setting. A number of authors have tried to define different forms of on-the-job training (Jacobs & McGiffin, 1987; Rothwell & Kazanas, 1990; Jacobs, 1992; DeJong, 1991).

Jacobs (1992) defines structured on-the-job training (SOJT) as a form of training that: 'occurs in the actual workplace, makes use of training objectives and plans, requires the active involvement of a trainer, uses printed materials and job guides, and employs a systems approach'.

Structured on-the-job training as defined by Jacobs can be suitable and effective for lower educated frontline employees in large machine-bureaucracies but may be less suitable for managers and staffpeople in that type of organization and even less for professionals working in professional bureaucracies. One may wonder whether this is a definition or an ideal. On-the job training has multiple forms and can be found in many different organizational contexts.

Rothwell and Kazanas (1990) and DeJong (1992) give some indications of the extent to which structured on-the-job training is practiced in business and industry. Both found the largest numbers of companies with structured on-the-job training among industrial production firms, banks and insurance firms, but this can easily be explained by the fact that these are all large companies. Glaudé and Versloot (1994), using a slightly other definition of on-the-job-training based on Scribner & Sachs (1990), found in an telephone survey the same result. Scribner & Sachs (1990) studied the way work and education, i.e. two separate activity systems, interact in ongoing on-the-job training, as well as the way trainers move between responsibility for their work and their training, their choice of initial tasks for the trainee, the way they reorganize the work which is to be done in the trainee's presence, and the way they combine instruction with work activities.

Finally it is necessary to define effectiveness of structured on-the job training if we want to get more insight into the influence of organizational contexts on effectiveness. Research into conditions for effective on-the-job training is rare. The available research into the effectiveness of structured on-the-job training (Belbin, Belbin & Hill, 1957; Cullen et al., 1976; Jacobs & McGiffin, 1987; Jacobs, Jones & Neil, 1992) shows that time saving is the main criterion for effectiveness.

The case studies reported here were planned to increase insight into conditions, forms, processes and effects of structured on-the job training programs. The researchers wanted to know how and why these programs were initiated, how they were embedded in the organization, how they were adapted to the needs of trainees and trainers, how the programs were designed, and what their effects were. We suppose that type of organization and type of job must be matched with a "fitting" form of structured on-the-job-training. In certain circumstances it can be better to structure less than to structure as much as possible.

Research questions and propositions

Given the fact that so few theoretical and empirical studies are available on the topic of structured on-the-job training, the research was bound to have an exploratory character. To focus the research as much as possible a number of research questions were formulated. With regard to each research question we present also one or more propositions, based on information from the literature and from two exploratory case-studies. Here we selected only the research questions related to the incorporation of structured on-the-job (SOJT) training in the organizational context. The research questions, propositions and results regarding micro-level data and didactic matters are reported in DeJong & Versloot (1994). Still there are too many questions and propositions to report all our data. The questions and propositions we do not report on in this paper are printed in a small letter.

Research questions

- 1a. What is the influence of type of organization on effectiveness of structured on the job training (SOJT)?
- 1b. Are there examples of SOJT for non-technical jobs?
- 1c. Are there indications that matching certain types of jobs to certain types of SOJT contributes to more effective training?
- 1d. What concerned parties started SOJT in Dutch companies and to what kind of training needs must they provide an answer?
- 1e. What forms of resistance had concerned parties to overcome in the process of initiating and developing SOJT?
- 2a. How do aspects of internal communication in Dutch companies influence effectiveness of SOJT?
- 2b. How do characteristics of the way SOJT is organized in the company influence effectiveness of SOJT?
- 2c. How can HRD policies influence effectiveness of SOJT?
3. How can effectiveness of SOJT be measured in comparison to unstructured OJT or in comparison to off-the-job training?

Research propositions

(numbers correspond to the numbers of the research questions).

- 1a. A type of SOJT that not matches type of organization in the typology of Mintzberg (1983) has little chance to be succesfully applied (Versloot, 1991).
- 1b. SOJT can be successfully applied to non-technical jobs.
- 1c. In jobs that rely on problem solving capacities effective SOJT in most cases have the form of on-the-job study, whereas jobs that mainly rely on disciplined performance of standard actions in most cases are matched with on-the-job instruction DeJong, 1991).
- 1d1. There is little documentation on how cases of SOJT get started. A diversity of possible starting points is plausible because of the contrast between well known examples (training department at Dutch Railways and local line-management at Dutch Cokes Furnaces).
- 1d2. Training needs connected with SOJT are related to: delay in full productivity of new personnel (Dutch Railways), safety risks (Dutch Cokes Furnaces) and high percentage of mistakes/deficiencies in quality, introduction of higher quality standards.
- 1d3. The more careful and explicit the decision process for SOJT, the clearer the measures or

- indications of success will be and the greater the chances of effective results.
- 1e. Forms of resistance in the process of implementing SOJT will be related to: priorities of production, overlapping responsibilities regarding training (especially in a shift system), lack of training skills of OJT trainers and lack of (quality of) training materials.
 - 2a1. The more explicit internal division of tasks, coordination mechanisms and procedures of decision making in a company are described, the more acknowledged the role of SOJT.
 - 2a2. The more explicit responsibilities and budgets are regarding SOJT in the company, the more disciplined, numerical, money-oriented and written reports oriented accountability procedures will be.
 - 2a3. Involvement of the CEO and board of directors by means of explicit training policy and formal training reports contributes to implementation of SOJT conform intentions and directed at criteria for success.
 - 2b1. The better the match of type of SOJT to model of training function (training policy, roles of personnel of the training department and material facilities), the more effective the results of SOJT (van der Krogt & Plomp, 1989).
 - 2b2. The more different phases of the training cycle are allocated to a number of departments and persons, the less the chances of SOJT to be effective.
 - 2c. The more SOJT is an integral part of HRM-policy, the better the chances of SOJT, implemented according to plan.
 - 3.1. Effectiveness of sojt can be measured by: necessary time to reach full productivity of new personnel (necessary training period), number and seriousness of mistakes/faults/deficiencies during production processes, quality and quantity of products/services rendered. Performance of SOJT on these indicators will be better than for unstructured OJT or off-the-job training.
 - 3.2. Succesfull appliance of SOJT will influence HRM and HRD-policy. When management and training staff put more trust in the effectiveness of SOJT, new hire selection criteria regarding level of experience and level of necessary level of (vocational) education will be adapted.
 - 3.3. SOJT can have influence on the general level of mobility of personnel in the company. The relationships between training, work experience, qualifications and career prospects can become more transparant. In this way SOJT can contribute to the development of a systematic and integral HRM-policy in a company.

The contingency scheme of organizational context and training

The overview of research questions and propositions shows that our research program is ambitious. The number of cases studied up to now is limited. We are just in the first phase of systematic research of SOJT in Dutch companies. We can only report part of our research data and conclusions. As said before they also are tentative. Still we think it is productive to focus our research and make maximum use of the insights we have already acquired. For that reason we designed our research as much as possible according to the methodological logic that traditionally is applied in quantitative studies. We regard it as legitimate and contributing to the quality of the research to present a hypothetical scheme of relations between important concepts, inspired by the theory of Mintzberg (1983). Figure 1 presents the hypothetical relations between type of organization, dominant coordination mechanism, model of the training function and type of SOJT.

Figure 1. Contingencies between type of organization and type of training

TYPE OF ORGANIZATION	DOMINANT COORDINATION MECHANISM	MODEL OF THE TRAINING FUNCTION	TYPE OF SOJT
simple structure	direct supervision	coaching model	on-site practice
machine bureaucracy	standardization of workprocess	didactic model	on-site instruction
professional bureaucracy	standardization of qualifications	brokers model	on-site study
divisionalized form	standardization of output	strategic policy model	mix of types
adhocracy	mutual adjustment	projects model	on-site development

The elements of this contingency scheme need to be explained. Column 1 and 2 just present some essential and well known elements from the contingency theory of Mintzberg. The models of the training function mentioned in the third column come from Krogt & Plomp, 1989. These authors also lean heavily on the theory of Mintzberg. The models of the training function are the result of applying logic to find contrasting models that form a plausible match to organization type. There is also a certain amount of empirical evidence gathered in Dutch companies by doctoral students. The fourth column mentions types of SOJT as described by DeJong, 1991. They are briefly characterized in the explanation below.

We now give an explanation of the supposed contingencies going from row one to row five in figure 1. In row one the organizational context is a small **simple structure** where the entrepreneur can supervise the work of a loyal group of assistants. The entrepreneur is the main owner of the company, is in power and acts as the model and the visible source of knowledge, skills and right attitudes. The entrepreneur tries to find a market for a new product, often connected with the application of new technology. Taking risks and acting on intuitive notions is unavoidable. Working hours can be long. The training function has to be simple in these circumstances. The entrepreneur and some experienced workers act as **coaches** to new hires. When this coaching becomes more structured the preferred type will be **on-site practice**, because survival and getting a foothold in a competitive market are the main goals and there is no room for a separate professional training activity. On-site practice makes use of the standard coordination mechanism **direct supervision**. A still inexperienced worker first assists an experienced colleague (coach), gradually he does parts of the job himself. The coach demonstrates,

corrects and supports when needed.

Looking at row two a **machine bureaucracy** generally is a large organization with a vested position on a relatively stable market. The main challenge is massproduction with a high level of perfection of products or services and with a high level of efficiency in order to reach a competitive costprice per product. The production process must run smoothly and undisturbed. Training activities as part of the production proces form a threat to **standardization of the workprocess**. For this reason training preferably is separated from the production process and production location. As a separate activity training itself then becomes part of the dominant logic of massproduction. There is a tendency towards a completely planned and controlled training process, executed by didactic professionals that are themselves highly trained to develop quality materials and execute training programs for specific groups of workers year after year. The **didactic model** of the training function in machine bureaucracies resembles fairly closely the organizational patterns, culture and activities of the regular educational system. The main part of training activities takes place off-the-job in a central training facility. Training components on-the-job are as structured as possible. **On-site instruction** is planned, standardized, taskoriented and short in duration. A detailed task analysis is the basis for a systematic training program. On-site instruction usually follows after an intensive period of preparation for a specialized job or it must make the execution of a simple task as perfect, safe and smooth as possible in as short time as possible. There is no room for faults, delay and experimentation in a machinebureaucracy.

In row three we connect the **professional bureaucracy** with a brokers model of the training function. Professionals typically deal with a number of individual clients. The problems of clients are private and often complex. New professionals are highly trained by experienced professional experts before they are allowed to service clients. The professional community guarantees the quality of the service and issues the diploma or certificate that gives the right to act as a professional. At the same time the goal of **standardization of qualifications** is reached. This orientation on the profession and on the interests of clients makes the professional more or less autonomous within the professional bureaucracy. The organization is dependent on the knowledge, skills and high moral attitudes and dedication of the autonomous professional. Any deficiencies in qualifications can only be assessed by representatives of the external professional association, comparing individual qualifications with standard qualifications. The main training facilities are almost by definition external, offered by the professional association. In the case of professional bureaucracies there is a market of suppliers and buyers of training courses. The training coordinator operates as a **broker** who mediates between the parties on a market he needs to know really well. But the market is dynamic and complex. The professional can choose according to the training needs as he experiences them and can act as a buyer as long as the budget of the professional bureaucracy goes. There is a strong tendency for professionals to participate in external training courses and conferences. When workpressure at the worksite leaves some time the autonomous professional, generally working in a separate

room, is motivated to study. Structured **on-site study** can lead to higher quality, more efficient use of available time and better results. The autonomous professional plans and executes the way he acquires his skills himself and has to schedule moments for study during the day, week or month. Selfdirected and motivated study within guidelines provided by experienced professionals acting as a model is the way he came to be a professional. This is also the way to develop himself and become better and better. He has to take responsibility for his own learning activities and development process.

On row four the **divisionalized form**, by definition large and complex, shows different faces in the training domain. The divisionalized form acts as a connecting superstructure for a number of relatively autonomous components. The components can be analyzed as organizations with characteristics of a certain type within the typology of Mintzberg. Belonging to the superstructure they are obliged however to reach an agreed set of results. This "outside" pressure works in the direction of internal centralization directed at standard outputs to deliver at a certain (standard) moment. This standard coordination mechanism, **standardization of outputs**, influences the culture of all components of the division structure. We suppose that the training function is dominated by documents stating explicitly to what **strategic goals** training activities must contribute. There is a keen interest in measurable training effects. Transfer problems are then especially relevant. All kinds of SOJT are supposed to minimize transfer problems. This means that creative **mixed types of SOJT** can be expected in this organizational context.

The **adhocracy**, starting point at row five, is confronted with all kinds of challenges and makes almost routinely use of the projectmode. Every new project dictates the kind of personnel needed. Also the kind of qualifications necessary to do the job have to be pinpointed first. Making use of past experience and learning ad hoc how to do the job go hand in hand. Success can only be reached by intensive cooperation in a group of people from different disciplines, making use of forms of **mutual adjustment**. Learning and training take place in the group and as part of the problem solving approach. So the training function is characterized as a **projects model** and training activities can be described as **on-site development** processes of f cooperating people. The group as a whole receives an innovative assignment. There is no supervision and coaching in the group, but mutual adjustment between equal partners as part of the collective problem solving process.

The plausibility of the contingencies described may be convincing, but must still be confirmed by empirical evidence. In every case the four typologies here presented must be applied to the situation as encountered. Operational criteria must help to come to a decision which type is most fitting. In every case it is possible to see if types match or don't match according to theory. The presentation of our results concerns the degree of matching we found in the eight cases we studied.

Research instruments and process of data gathering and data analysis

The concepts used in research questions and propositions were translated into questionnaire items. We developed five questionnaires: for trainees (and former trainees), trainers, supervisors, managers and HRD-officers. A separate instrument was constructed for the analysis of relevant documents. Each item was placed in the questionnaire for the category of participants considered knowledgeable. As a consequence, we placed many items (if necessary in modified form) in more than one questionnaire. Interviews were held by students who were in their last year of the Utrecht University Educational Studies program, specializing in corporate education. Numbers of interviewed persons per case varied from 7 to 19, with an average of 12. Some persons (those who were in a coordinating position) were interviewed more than once. By placing the same item in several questionnaires some 'triangulation' could take place; i.e. checking reports from different witnesses. Interviews were tape-recorded, typed out, and checked by the interviewees. Segments of the scripts were coded in relation to the concepts measured. The students summarized per case for each concept data from all the interviews. Case-reports were written based on these summaries. In the references we present a separate overview of the eight case-reports. The case-reports relate the collected data to the propositions and the research questions formulated in advance.

The cases

A selection was made of 8 companies (of over 500 employees), offering training programs designated as 'a type of structured on-the-job training'. In some cases one can conclude in retrospect that the training program studied did not satisfy Jacobs' definition of structured on-the-job training. We found that training programs differ on the dimension: amount of structure, as well on many other dimensions. These programs differ from on-the-job training programs studied in the past. They are neither located in factories, nor prepare for technical production jobs. They all concern service organizations. Figure 2 provides an overview.

Figure 2: Companies and jobs

Company	Product/service	Job	Tasks of employee
1. KNMI	Weather bureau/ meteorological office: Information on the weather	Observers	Observing the weather/report. Located in Schiphol airport and Vlissingen weather station
2. RABO	Banking	Client advisors (front- office)	Advising clients/ selling savings- and insurance-products/ managing client- and product-information
3. NS	National railway company: transport of people and cargo	Front-office workers	Selling tickets/ advising clients
4. Peek & Cloppenburg	Clothing retail	1. Salesmen, 2. Senior salesmen, 3. Department supervisors	1. Selling clothes/ presentation/ service; 2. Ditto + supplementing/ maintenance; 3. Supply management + people management
5. AERO Groundservices	Dispatch of airplanes, passengers, and cargo at Schiphol Airport	Ground attendants	Check-in of passengers/ controlling luggage /ticket control/ operating bridges
6. Victoria Vesta	Insurance	Insurance-agents	Advising clients/ selling insurance policies/ expanding clientele/ dealing with claims by clients
7. AMEV	Insurance	Client administrators in the Collecting Division	Dispatch of correspondence/ administration
8. ABN-AMRO	Banking.	Front-office workers, using a new computer system	Advising clients/ administration of financial transactions with clients

In six cases just one training program was the subject of study. The case of Peek & Cloppenburg regards three programs for three different functions. At KNMI two similar programs for comparable functions were studied.

Results

It is not possible to present all the empirical data gathered in connection to the mentioned research questions and propositions. Qualitative research data cannot be as easily condensed in a few pages as quantitative data. We selected the research questions and propositions most connected with the contingencies described in figure 1. We present our empirical results in an interpreted form. The doctoral students who studied the documents and interviewed the people in the companies selected and compared the information. They formulated conclusions and scored cases on the typologies. They operated in couples of two. The pair of students checked each others findings and provided feedback to each other. In addition each of the authors coached the students during the case study itself and the writing of the case report. Writing articles, based on these case reports, means repeated

reading and analyzing of the case reports and frequent moments of reflection on the validity and reliability of the scores given to cases on a certain typology. In a qualitative study it is very difficult to reach perfect consistency. In this study every case has been studied by at least four people from outside the company and at least five people from the company itself gave information and had to characterize the own situation. The number of people involved prevents individual ideosyncrasy in the interpretation of the data that are presented now.

Research question: 1a

What is the influence of type of organization on effectiveness of **structured on the job training (SOJT)**?

Proposition 1a.

A type of SOJT that not matches type of organization in the typology of Mintzberg (1983) has little chance to be successfully applied (Versloot, 1991).

Case	Summary of empirical data for proposition 1a	Conclusion
KNMI	the Dutch meteorological institute is a machine bureaucracy mixed with professional bureaucratic elements and elements of a simple structure in local weather stations. SOJT following a basic theoretical training off the job has the form of on-site practice . This is a not the matching form. Effectiveness is expected to improve when SOJT becomes more instruction-oriented.	no support, better match in future (- > +)
RABO	this Dutch cooperative bank is a machine bureaucracy mixed with professional bureaucratic elements and in small local banks also elements of a simple structure. For a year theoretical off the job courses and SOJT follow each other periodically. SOJT is a combination of on-site practice and study assignments . The match is not conform to theoretical expectations. Effectiveness is considered quite good.	no support (-)
NS	Dutch Railways is a machine bureaucracy . SOJT is on-site study assignments combined with instruction . This is not considered a matching combination. Effectiveness is good.	no support (-)
P & C	This clothing salesfirm with a number of sales points (in Dutch filialen) is a machine bureaucracy , with elements of a divisionalized form and elements of a simple structure in a sales point. SOJT for salespersonnel has the form of on-site practice, leaning over towards on-site instruction . SOJT for supervisors shows the on-site practice form combined with on-site study . Type of organization and type of SOJT are not matched. SOJT is considered effective.	no support (-)
AERO	AERO handles passengers and freight at Schiphol airport. Groundstewards are part of a machine bureaucracy . At the end of a period of theory oriented basic training SOJT has the form of on-site instruction . SOJT is evaluated as effective.	support (++)

VV	VV as insurance company is a machine bureaucracy . New client advisers learn their business in a special training center off the job. They follow theoretical training courses and participate in short practice visits. SOJT has the form of closely supervised on-site practice in advising clients at their homes with some form of instruction (preparing the visit) and feedback (reflecting on the visit). This type of SOJT is considered reasonably effective.	some support (+)
AMEV	this insurance company is a machine bureaucracy . Parallel to a more general theoretical course off the job new client administrators/insurance fee collectors participate in a self-supervising group. They take part in the daily process of handling incoming mail and telephone calls of clients and other departments according to written instructions for all possible sorts of requests. On-site instruction in this form is considered reasonably effective.	support (++)
ABN/AMRO	this recently merged international bank with a few hundred Dutch local offices is a machine bureaucracy . Sitting and new bank employees had to be instructed to use a new terminal system (for front office and back office transactions) to communicate with the head office in Amsterdam. SOJT has the form of on-site study and on-site practice with the help of written materials containing written instructions, a simulation branch (of the program installed on the central computer system with a number of terminals at each local bank) and a regional, mobile instructor. Some local banks added elements of on-site instruction (provided by employees that had already mastered the new system). At ABN/AMRO there are some doubts regarding the effectiveness of this specific SOJT.	some support (+)
Summary over eight cases	The machine bureaucracy as type of organization and on-site instruction as type of SOJT go together according to our proposition. Supervised workers in the operating core perform standardized activities, planned by staff personnel. In the cases P & C, Victoria Vesta, AERO en AMEV this is indeed the picture. In cases where the machine bureaucracy is mixed with other elements the form of SOJT also seems mixed in the expected direction. In the cases RABO, NS, AMEV and ANB/AMRO the use of on-site study assignments and on-site (self)instruction fits the relative autonomy of the (bank)employees. For the full spectrum of client requests there are standard procedures available. These must be mastered by novices. In the case of the KNMI regional posts at harbors and airports can be seen as separate simple structures where the on-site practice form of SOJT works best according to our proposition. The same applies to the salesmen of P & C clothingshops and to the insurance advisers of VV on clients visits. The on-site practice form of SOJT is recognizable. For the supervisors of P & C on-site (self)instruction and on-site study assignments are more fitting to the higher level of autonomy and level of formal education. In summary the hypothesis gets a lot of support, when the plausible nuances are accepted. In short when the type of SOJT fits less the type of organization the effectiveness suffers. When the type of organization is not pure, the matching type of SOJT is combined with elements of other forms of SOJT and off the job components of a training.	

Answer to research question: 1a

The match between type of organization and type of SOJT influences indeed the effectiveness of SOJT. The dominant coordination mechanism that goes with a certain type of organization poses limits to the effectiveness of SOJT. All eight cases of SOJT are developed in the context of a machine bureaucracy. This means a dominant role for standardization of workprocesses as coordination mechanism. Then on-site instruction for SOJT contributes most to a disciplined performance of planned, prescribed activities, thought out by a powerful staff department and supervised by line managers.

The sought after standardized work processes by workers are sometimes prepared by standardization of Skills, Knowledge and Attitudes of those workers in an off-the-job component of the training program (KNMI, RABO, NS). This is the case when a certain autonomy is necessary or unavoidable and when the general level of education is relatively high. Elements of a professional bureaucracy are then recognizable. Sometimes in these circumstances a sustaining role is played by written instructional materials to be studied when needed (RABO, NS, AMEV, ABN/AMRO). When elements of a simple structure play a role an alternative concept of SOJT is available in the form of on-site practice assignments with a light form of direct supervision (KNMI, RABO en P & C).

Research question 2b

How do characteristics of the way SOJT is organized in the company influence effectiveness of SOJT?

Proposition 2b1.

The better the match of type of SOJT to model of training function (training policy, personnel of the training department and material facilities), the more effective the results of SOJT (van der Krogt & Plomp, 1989).

Case	Summary of empirical data for proposition 2b1	Conclusion
KNMI	At KNMI functions predominantly a didactic model . This matches only partly the machine bureaucracy . New employees must off-the-job follow a planned series of elementary job oriented modules (theoretical subjects and specific skills) by experienced experts, who teach standard knowledge and skills. Then on-site practice follows. This is not the matching form. Still the training is reasonably effective . To reach a higher level of effectiveness the people at KNMI strive for more structure and more intensive coaching. When this in future results in on-site instruction , the predicted match would be reached.	some support (+)
RABO	The off-the-job component of the trainee program for client advisers conforms to the didactic model , fitting the machine bureaucracy . The on-site study component for theoretical modules fits more the professional bureaucracy. The most practical part has the form of on-site practice . This mixed form of SOJT is effective , looking at the goals strived after.	some support (+)

NS	Dutch Railways as a machine bureaucracy shows a didactic training model . Courses are specific for the company, developed at a central training department, given by experts aiming at standardization of work processes. For ticket sellers on-site study is used, but (self)instructional and practice elements are used too. Still this does not match to type of organization and type of training model. The training is considered effective .	no support (-)
P & C	P & C as predominantly a machine bureaucracy makes use of a didactic training model . Off-the-job courses teach skills, knowledge and attitudes mentioned in the job descriptions of salesman, specialized salesman and sales supervisor. The sales supervisor enjoys so much autonomy in the job, that he can be considered a semi-professional. SOJT at P & C is a mixture of on-site practice and on-site study for the salesman and specialized salesman. The sales supervisor chooses more or less his own training assignments. On-site study is the best term to describe these assignments. There is no match. The training is considered effective in reaching stated goals.	no support (-)
AERO	AERO as a machine bureaucracy has implemented a didactic model for off-the-job courses. SOJT has the form of on-site instruction . Management and training staff are satisfied with the success of SOJT as part of the total course.	support (++)
VV	VV is a machine bureaucracy , a didactic training model functions in a separate location and SOJT shows a mixture of on-site instruction and on-site practice . The match is not perfect. The contribution of SOJT in this training course is minimal, but considered reasonably effective .	some support (+)
AMEV	AMEV is a machine bureaucracy , with some elements of an adhocracy . The off-the-job modules are theoretical and organized within a didactic model . SOJT has predominantly the form of on-site instruction , making use of detailed written instructional materials. In more or less autonomous workgroups, serving a regionally demarcated group of clients, instruction and coaching takes place. Unexpected requests of clients are taken care of by ad hoc consultation in the workgroup; the improvised solution is written down in a new instruction for similar requests. So in this case there is a matching combination. The training is considered reasonably effective .	support (++)
ABN/ AMRO	As a machine bureaucracy ABN/AMRO until now made use of a didactic training model . The merger between the two banks ABN and AMRO made combinations of previously different workprocesses and procedures necessary. Temporarily adhocratic elements are part of the daily routine at the local bank offices. The employees have to operate the new system of handling client requests at the counter. SOJT is used to make the transition. This is a form of on-site study . Some local bank offices saw the opportunity to let employees get instruction in a nearby ABN/AMRO office, already gone through the transition. Within offices also some employees instruct others. This creative adjustment of the formally and centrally planned, non-matching form of SOJT results in a better match between type of organization and type of training. The training is considered reasonably effective .	some support (+)

Summary over eight cases	All eight cases concern more or less to our surprise a machine bureaucracy. Sometimes there are also characteristics of a professional bureaucracy (KNMI, RABO, VV), of a simple structure (P & C) or an adhocracy (AMEV, ABN/AMRO). In all cases we see predominantly the didactic training model with SOJT as a necessary or helpful component. As a rule on-site instruction is the type of SOJT. When the organization deviates from the pure type machine bureaucracy, SOJT shows adaptations contingent on that deviation. Sometimes the deviations seem only temporary (ABN/AMRO), or only just started (AMEV). The formulated proposition gets a fair deal of support. Nuances are important however. Organizations or separate departments or divisions can temporarily deviate from standard type. This leads to adaptations in the standard type of training function and type of training activities. These deviations and adaptations make transition possible and contribute to an effective implementation process. From that perspective AMEV and ABN/AMRO are cases that show the validity of the contingency theory in optima forma.	a fair deal of support
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Answer to research question 2b

Until now only a limited amount of empirical data is available. Our eight cases represent also only the beginning of a form of empirical falsification. They offer a nuanced spectrum of positive results. The proposition is plausibly deducted from contingency theory, in which tendencies are postulated of matching types on different dimensions in business organizations. Logical configurations of matching types are expected to be seen more frequently in reality because they are supposed to have more survival value than non-logical configurations. Non-logical configurations are inherently contradictory and show less "fit" with the environment. Non-logical configurations can exist according to contingency theory but are supposed to be less effective and therefore always in repair. These theoretical notions are confirmed by our empirical data.

Empirical research making use of typologies is rather complicated. Really pure types are not there in reality. This is the case for the organization types and coordination mechanisms, described by Mintzberg, the types of training function described by Krogt en Plomp (1989) and the types of SOJT described by DeJong (1991). There is still a lot of work to be done on operationalizing the indicators used to demarcate the types.

In our eight cases predominantly the following logical configuration presents itself: machinebureaucracy, standardization of workprocesses, didactic training function and on-site instruction. All four types are however mixed with other types. In any machinebureaucracy there are characteristics of other types. That seems connected with the specific jobs studied. In all eight cases a job is chosen in the operative core. Still the organizations differ much in the level of Tayloristic task division. The sharpness of separation between supervision and execution of tasks differs much (the level of vertical differentiation), the number and complexity of tasks in a job (level of horizontal differentiation) differs much.

The eight cases show that jobs that allow more autonomy and are more complex, in short are not part of a standardized workprocess, need more than just a didactic

training function and on-site instruction. In components of a organization with characteristics of a simple structure (P & C) a form of on-site practice develops. When the organization shows elements of a professional bureaucracy (KNMI, RABO) forms of on-site study manifest themselves. When an organization shows some adhocratic elements (AMEV) a form of on-site development is chosen. The question of effectiveness of SOJT is difficult to answer. There is no uniform indicator of effectiveness. The goals and intentions strived after by management, staff and employees themselves are specific. Effect evaluation in the companies themselves is lacking in precision. The felted necessity of feedback on the results of training activities varies. It depends on the specific situation and on the priority of quality performance in certain jobs. The contingency theory however must not be used as an excuse to justify any results and every model of training function and type of training. The cases we studied show the need to improve the chosen form of training and to create better conditions for employees, coaches and management to participate in the training. It is certainly the variety in configurations of type, forms and activities that inspires creative improvements. Non-matching configurations are to be made more matching and more complete. If there is some pattern of task division in the phases of development, execution and evaluation of SOJT, it is wise to make use of the normal pattern of task division between line managers responsible for the primary production process and supporting staff departments.

In machine bureaucracies the planning department is dominant. A complex production process is broken down in a series of simple, easy to learn tasks, complementary to machines, that fast, precisely and reliably perform all kinds of strictly routine, standard activities. In this way efficient massproduction is possible at low costprice per unit.

In professional bureaucracies the production process is also standardized, but on a different basis. The well trained professional performs a series of diverse standard activities dependent on the (diagnosed or estimated) needs of the customer. Disciplined planning by a central staff department conflicts with the necessity of flexibility due to the varying number of customers per timeperiod and the varying complexity of their needs. The domineering fixation of the machinebureaucracy on certainty, planning and control regarding the production process and the quality of the product meets resistance in the professional bureaucracy. The needs and the situation of the individual client takes priority in the professional bureaucracy and the ethical code that binds the individual professional to provide personally the best possible service to the client. Privacy of the client and the personal relationship between client and professional have priority over certainty, planning, control and efficiency.

The cases we studied are all machine bureaucracies. At the same time they are all service organizations dealing with individual clients. The jobs in the operating core concern not just a few simple, standardized, routine tasks. They can only be performed by employees, that did at least finish high school, got some vocational training and participated in some corporate training. The typology of Mintzberg

lacks clear indicators regarding the place of these service organizations. Banks like RABO and ABN/AMRO, insurance companies like AMEV and VV and companies like NS, P & C and AERO provide services to individual customers. The employees are no professionals in the full meaning of that term, looking at the relatively simple actions and forms of advice at the counter. At the same time there is no domineering position of a central planning department and the horizontal task division goes only so far. There is a clear vertical task division between may be four hierarchical levels, but that leaves a lot of autonomy for the individual employee. When a machine bureaucracy can have so many faces our contingency scheme in figure 1 loses some plausibility. The special case of KNMI adds further doubts.

At KNMI the possibilities for standardization of work processes are not limited by the unpredictability of the demands of customers (individuals and special categories) but "unpredictability" of the weather stands in the way of standardization of the work process. The growing importance of centralized "superior" technology provided by weather satellites and the interpretation of data by means of centrally developed computer programmes does not make local weather observations superfluous. At a number of local stations employees do their own observations with relatively "low technology" apparatus and make use of their own sensory experiences. The decentral location of weather stations and the importance of individual craftsmanship and dedication make a central planning department relatively powerless.

In a professional bureaucracy the dominant coordination mechanism is standardization of knowledge, skills and attitudes. That gives a central training department at a central location a key role. Centrally developed, explicit, written and prescribed procedures for observation and registration of the local weather are theoretically legitimated and taught. The fidelity of local application is dependent of the professional in training, the experienced professional acting as a coach and the colleagues as a local collective with a specific culture. The professional in training and his coach can as a couple decide between on-site practice, on-site instruction and on-site study as preferred type of SOJT. In a professional bureaucracy there seem to be some standard problems in the domain of training. We make them explicit in the form of a number of questions, that can be the subject in a next phase of our research program.

How loyal is the professional in training to the guidelines of the central training department? How is the fit between these guidelines and the more or less autonomous professional standards of the experienced local professional(s)? How much ambition has the experienced local professional as a coach to drill the new recruit in the professional standards? How much room offer written explicit procedures for own interpretation by the coach and trainee? It can become a powerplay between efforts of the central organization to enforce guidelines and assessment procedures and claims of professional autonomy by experienced and/or professional trainee at the local site.

If these problems in the domain of training are indeed characteristic for professional

bureaucracies, are they also problematic in service organizations like the ones we studied? Looking at the results we say that these problems have indeed manifested themselves and are dependent on the complexity of the job and the autonomy of the employee at the work site.

Research question 3.

How can effectiveness of SOJT be measured in comparison to unstructured OJT or in comparison to off-the-job training?

Proposition 3.1

Effectiveness of SOJT can be measured by: necessary time to reach full productivity of new personnel (necessary training period), number and seriousness of mistakes/faults/deficiencies during production processes, quality and quantity of products/services rendered. Performance of SOJT on these indicators will be better than for unstructured OJT or off-the-job training.

Case	Summary of empirical data for proposition 3.1	Conclusion
KNMI	by a more regulated assessment procedure readiness for production can be more reliable measured, quality of service to customers is improved, there are less frequent internal complaints. By offering a safety module people feel safer at their worksite. By offering a module warningsystems there are less frequent machine failures. Practical training has become more structured and systematic and is more effective as a result. The intentions are to go further in that direction.	some support (+)
RABO	the trainee program has a duration of one year; one year shorter than the previous course (an apprenticeship course). Readiness for production is better. Quality in customer advice is better and commercial skills are improved. There are no signs of more external or internal complaints. Safety is improved by implementing an introductory course containing a series of assignments. Personnel is expected to be more flexible when information technology gets introduced for all production processes and procedures.	support (++)
NS	Trainees are ready for production after six weeks. The number of necessary training days is less, so the course is more cost-effective. Quality of service is better. A rotation scheme of trainees involves the personnel of a number of trainstations in the training course. The coaching process of the trainee elicits communication between stations that has a transfer effect after the course. Exchange of opinions and skills between experienced coaches stimulates quality of service and development of systems to assess quality. Line management gets involved in the development of learning materials and can permanently control contents. There is no indication of increase or decrease of mistakes.	support (++)

P & C	Reorganizations and other changes are more smoothly, easy and faster to implement. SOJT means in this case also task enrichment and greater responsibility and this motivates employees and their supervisors. Supervisors themselves are sooner ready for production. Customer friendliness is at a higher level, there are less letters of complaint sent in by customers. Goals and intentions are effectively reached by SOJT.	support (++)
AERO	The number of training days is the same, but quality of trainees at the end of the course is better. They are more ready for production, more selfreliant and make less mistakes.	support (++)
VV	After three months trainees are fully productive. Before they participated earlier in productive work, but became fully productive after a year. Now less training days are necessary: 13 weeks of 5.5 days in a training center. Included are 8 days of practice in the field. Quality and quantity of service to customers can be improved. For mastering fully the many administrative standard procedures not enough practice time is available.	some support (+)
AMEV	There is no systematic effect evaluation. Mastery of skills is however directly visible within the workgroup because productive activities have to be performed on a computer terminal at the worksite under supervision of a coach (an experienced colleague). At a basic level and for some tasks a trainee becomes productive after a few weeks. The quality of written correspondence with customers is not assessed. Letters must be answered on a daily basis and a regional workteam is responsible to keep up with that criterium. Decentralized responsibility in semi-autonomous workteams and customer friendliness is part of the new culture. There are no quantitative indications to measure effects.	some support (+)
ABN/ AMRO	SOJT helps to train bank personnel in local bank offices to use the new system of communication with the central computer in the headoffice (in fact there are temporarily three big computers operating the two old programs and the new combined program for handling transactions with customers and companies). Well trained personnel evaluates the new working procedure positively thanks to this SOJT course. Quality and quantity of customerservice are improved. There are less mistakes, service to clients is faster and more flexible. Some pilotoffices however did not train with SOJT, but arranged some form of instruction at nearby ABN/AMRO offices that had already implemented the new communication system. This form of training fits of course better to the machine bureaucracy according to our theory. Both forms of training were effective.	some support (+)

Summary over eight cases	In six out of eight cases clear indicators are found to measure effectiveness of training, and of sojt as a component. It is remarkable that machinebureaucracies like AMEV and ABN/AMRO have a rather global and vague training policy, show no systematic implementation plan and no systematic effect evaluation. The time pressure caused by the merging process and consequent reorganization process forms an explanation, but at the training level (policy, development of SOJT and results) little insight is gained that could help plan and implement a new innovation process. This deviation from type of organization shows however that tendencies towards adhocracy at the organizational level are connected with adhocratic forms of training. The more stable examples of machinebureaucracy show the more explicit, precise and quantitative indicators of effects that can be expected according to contingency theory.	clear support
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Answer to research question 3

Effect evaluation of corporate training courses is rare and difficult to perform methodologically right. A number of concerned parties can have different goals and intentions. Then it is difficult to reach uniform indicators of effectiveness. Only few organizations have a staff of professional researchers available to solve the methodological problems of valid and reliable measurement procedures. It is almost impossible to measure the specific contribution of a corporate training course to success or failure of a department or whole company. In our eight cases we just asked our informants what they saw as the results or effects of the SOJT we studied.

As indicators of effectiveness we found:

- readiness for participation in the normal production process: KNMI, RABO, NS, P & C, VV, AMEV.
- necessary number of training days: RABO, NS, VV
- number and seriousness of mistakes: KNMI, ABN
- quality and quantity of products/services: KNMI, RABO, NS, P & C, VV, ABN/AMRO

In most cases there is no real measurement procedure. It is just estimate, more or less subjective, of responsible linemanagement. An objective comparison with unstructured OJT is only possible in a few cases. Even in less cases the comparison was made: KNMI, P & C, VV. In more cases the reference course for comparison was an off-the-job course: RABO, P & C, AERO, AMEV, ABN/AMRO.

Overall summary of results

After this lengthy presentation of the empirical results in our eight cases it is now time to see in what degree our contingency scheme holds. Figure 1 has to be compared with the results in figure 3. But first we give some explanation of the complex figure 3.

In the first column the specific cases are mentioned. The second column

characterizes the organization. Per case we name the main type we found and, when needed, we add a secondary type. The abbreviations used are: SS = simple structure, MB = machine bureaucracy, PB = professional bureaucracy, DF = divisionalized form, A = adhocracy. The third column mentions the type of job. In the service organizations we studied SOJT is used to train employees for not strictly routine tasks. Some problem-solving capacity, autonomy and initiative is necessary. Some of the jobs can even be characterized as semi-professional, when we also take into account the level of formal education and additional training needed. We make use of the following abbreviations: R+ = more than just routine jobs, SP = semi-professional jobs.

The fourth column gives information on the specific model of the training function. In each case we studied, there is a complementary off-the-job training component. Looking at the case reports it is clear that this off-the-job component is part of the supply of training facilities of the company. In all cases it can be best characterized as the didactic model. In some cases this model is not pure. We indicate this by placing the secondary model between brackets ().

In the fifth column we give our estimate of the match between the type of organization (weighting also the type of job) and the specific model of the training function. As abbreviations we use: ++ = a complete match, + = some level of match, 0 = no match, - = some mismatch, -- = complete mismatch.

In column six we characterize the type of SOJT we found in a case. When another type is also represented by some characteristics we place that type between brackets ().

Column seven mentions our estimate of the level of match between the type of organization found and the type of SOJT. The abbreviations used are the same as in column 5. In the last column (eight) we summarize the information from the case reports on the effectiveness of the whole training program (SOJT + off-the-job component). Here it is understandable that reported results in all cases studied are positive. We did not systematically select a few cases with negative results. In this phase of the research it would have been impossible to get access to a negative case. We only differentiate between cases that report a high level of satisfaction over effectiveness and use clear indicators of success and cases that report less satisfaction and are not precise in the improvements reported. The use of + or ++ is sufficiently clear we hope.

Looking at the total picture of results in figure 3 the overall support for the contingency scheme is positive. The match between type of organization and model of the training function is clearly there. But the type of SOJT does not as a rule match the type of organization. This does not mean that SOJT is perceived by the company as ineffective. In most cases the on-the-job component is not the most important compared with the off-the-job component. In some cases the expected type of SOJT is just not the dominant part in a mixed type. The SOJT component of a training could be seen as compensating the weak points of the dominant didactic model of the training function matching the machine bureaucracy.

Figure 3. Empirical contingencies between organization type and type of training

Case	Type of organization	Type of job	Model of the training function	Match	Type of SOJT	Match	Effect of SOJT
KNMI	MB (+ PB + SS)	SP	didactic (+ coaching)	+	practice (> instruction)	-	+
RABO	MB (+ PB + SS)	SP	didactic (+ coaching)	+	practice (+ study)	-	++
NS	MB	R+	didactic	++	study + (+ instruction)	-	++
P & C	MB (+ SS + DF)	R+ + SP	didactic (+ coaching)	+	practice (+ study)	-	++
AERO	MB	R+	didactic	++	instruction	++	++
VV	MB	R+	didactic (+ coaching)	+	practice (+ instruction)	0	+
AMEV	MB (+ A)	R+	didactic (+ projects)	++	instruction (+ development)	++	+
ABN/AMRO	MB (+ A)	R+	didactic (+ projects)	++	study (+ instruction)	0	+
Summary	3 MB & 5 MB+	5 R+ & 2 SP & 1 (R + SP)	2 did & 4 (d + c) & 2 (d + p)	4+ & 4++		4 - & 2 0 & 2 ++	4+ & 4++

Conclusions

The presentation of empirical data for a selected number of research questions and connected propositions shows that our eight cases give some support to the contingency theory we applied to SOJT in the organizational context of companies. Machine bureaucracies clearly go together with the didactic model of the training function. Within the overall model of the training function it appears to be possible that the type of SOJT applied deviates from this model. In this regard the expected contingencies are not

confirmed by the empirical data. Looking at all kinds of nuances the propositions still retain some plausibility. We go over the cases one by one.

At KNMI the SOJT component of the training for weather observers is predominantly of the on-site practice type. The secondary characteristics belong however to the type on-site instruction. The dominant model of the training function shows itself here. It explains a bit the finding that the training is regarded effective despite the lacking match between the two.

RABO even shows less match between the model of the training function and applied type of SOJT. Here the secondary type of SOJT, on-site study, does some justice to the elements of a professional bureaucracy we discovered at the organizational level. Still the high level of effective is an unexpected result.

The ticket seller in the case of NS (Dutch Railways) gets the opportunity for on-site study, not matching the type of organization and the didactic model. All kinds of instructional activities precede and support this self-study component of the training. This explains why this non-matching type of SOJT is regarded clearly effective by NS-people.

Looking at the results for P & C the mix of types is remarkable. For some part this is due to three categories of employees studied and the difference in experience and educational level between the categories. The satisfaction at P & C over the level of effectiveness can be a bit inflated.

AERO is a straightforward case that fits completely the propositions. Here however also the satisfaction over the effectiveness can be inflated.

Victoria Vesta relies heavily on the off-the-job preparation course in a separate training facility, fitting the didactic model. The SOJT-component is relatively unimportant. At many moments we almost decided to drop the case as not belonging to our research domain. This non-matching case still shows a form of match looking at the secondary types.

AMEV is a clear case of confirmation of the propositions. The effect of the training course is regrettably only loosely evaluated.

The SOJT studied at ABN/AMRO is a special case. Temporarily the merging process between ABN and AMRO is responsible for adhocratic elements in the organization. The on-site study type of SOJT does not fit the dominant model of the training function. But there are a number of instructional elements in this training course and some local banks by their own initiative apply informally a form of on-site instruction. So this case is no clear refutation of the proposition.

Summarizing we could say that the eight cases provide some confirmation of the propositions formulated in advance. A lot of additional empirical research is needed. Of course there could be hundred of cases that counteract these propositions. The propositions now need to be presented as hypotheses for a next stage of research. Preferably this next stage of research will contain more cases, chosen at random from a clearly defined population of companies.

The research objective regarding the organizational context factors was to increase insight into organizational conditions that hinder or facilitate effective use of structured on-the-job training as a management tool. The case studies show how many and how varied the measures are that can be taken in order to optimize on-the-job training in combination with off-the-job training components. The presented contingency theory builds on the **insight that there is no one perfect or ideal way to offer on-the-job training.** The theory in fact sheds some doubts on the universal value of adding more structure in order to attain higher quality or lower costs or more effects of training.

The contingency theory confirms the notion that more instruction is possible and needed when training concerns standardized tasks and low level skills as is usually the case in the operating core of big machine bureaucracies. However, when tasks are not completely standardized and higher level skills are needed, more structured instruction can even become counterproductive. The form of OJT then has to fit the higher level of autonomy of the semi-professional. We found that are eight cases are all machine bureaucracies. At the same time they are all service organizations. The jobs studied ask the execution of tasks that are certainly more than routine. This can be the explanation for the deviations we find from on-site instruction, the type of SOJT that according to theory best fits the machine bureaucracy. Optimizing training is more necessary when the differences between initial competence levels and the required levels of adequate job performance are large and when bad job performance causes a lot of damage to the reputation, sales or profit of the company. The necessary form of optimizing depends on a number of factors specific for the type of organization and the type of job. Every one of our eight cases added to our insights in the many different possibilities and combinations of actions that can be effective in a specific situation.

We are now more prepared for the next stage of our research program. We experienced difficulties in working with the typologies mentioned in the contingency schemes (figure 1 and figure 3). In the first place they are difficult to operationalize. Our questionnaires were lengthy and specified for each category of respondent. Still some concepts are abstract and complex and can only be connected with the empirical reality by the use of a number of more concrete indicators. It is not easy to score completely objectively how centralized a company is structured or how formalized the procedures are for communication and decision making.

In the second place there are no pure types in reality. It is even more difficult to describe and score objective and precisely all kinds of mixed types. A well known typology of organizations like Mintzberg's is no guarantee that concrete organization fall neatly in one type. Between the machine bureaucracy and the professional bureaucracy a whole spectrum of service organizations (profit and non-profit) seems best to place right between the two types. International competition and technological innovations seem to drive machine bureaucracies away from their typical characteristics. They act no longer according to type. The training function may be a tool of management to support these transition processes. Then the matching didactic model and on-site instruction would not be the most promising tools to help innovate the organization. We hope that SOJT takes on so many complex forms as we found in practice because it is already used as a tool to help innovate the organization and prepare the personnel for changes yet to come.

Contingency theory differs from thinking according to strictly causal, linear relations of independent and dependent factors. Taking account of well known contingencies can be wise and economical. It can help decision making and contribute to effectiveness of a training when the type of training matches type of organization and type of job. At the same time contingency theory leaves room for free, human decision making and deviation from plausibility and logic. May be that is the reason why it is so difficult to falsify propositions deducted from contingency theory?

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